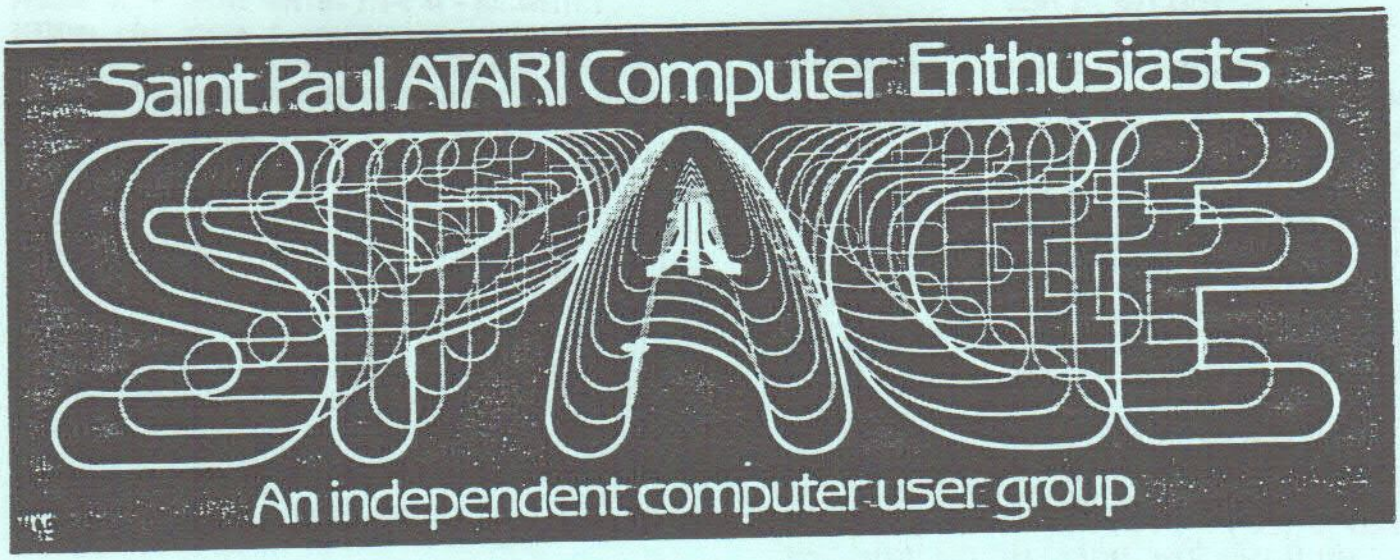

J U L Y 1 9 8 6

This Month's meetings:
SPACE FRIDAY, JULY 11, 7:30 PM
MAST-SIG FRIDAY, JULY 18, 7:30 PM
At the Falcon Heights Community Center 2077 Larpenteur Ave. W.

Bruce Haug...President 774-6226 Bob Rhode....Editor 222-3593
Jim Schulz...Vice-Pres 537-5442 Bob Siede....Treasurer 489-3982
Frank Haug...Disk Lib. 774-6226 Bob Floyd....Secretary 487-2627
Jim Siede....Paper/educational Librarian 489-3982
Bob Floyd / Jim Schulz Co-Chairs MAST
SPACE/TAIG Bulletin Board....moving watch for new number

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BYTES FROM THE PRESS

Here it is JULY, hope you can make the meeting this month. Be sure and read the 8-Bit news column, and the 8-Bit D.O.M. news. The good news is NEW SOFTWARE is comming for the 8-Bit ATARI.

The thing I'am most excited about is the NEW 300/1200 Baud Modom that ATARI is comming out with approx in SEPT. This Modom will have a RS232 port on it, this means every one with a 850 interface can use it, the 520ST can use it, any computer with a RS232 interface can use it!!! But the GREAT thing about it is it HAS A SERIAL port on it for the "8-BIT" ATARI, and the PRICE "-$99.95-" !!! I can't wait !!!

Now how about MAST? Things could not be better !! MAST now OWN's a 520ST, we purchased one from USER FRIENDLY. This way we know for sure there will be a 520ST avaiable for DEMO's before and after the meeting.

I want to thank Steve Pauley, and Todd Burkey from MINDTOOL'S for supplying a 520ST for the meetings to date, without their help MAST would not be where it is today.

Membership is on the rise !! Both SPACE & MAST, keep up the good work !! Remember if you sell your 8-Bit because you bought an ST -- TELL the new owner about SPACE !!

THIS MONTH

BRING YOUR FAVORITE PROGRAM
TO THE MEETING AND TELL THE
REST OF US WHY YOU LIKE IT
---- BY GIVING US A DEMO ---#
##################

The Pres

8-BIT D.O.M.
by:Frank Haug

Welcome to another moment in the never-ending saga of the DOM. I hope you had/have# a great 4th of July.(#- by the time you read this you may have spent the fourth or be spending it but at this writing it ain't here yet) Well you didn't think I'd write this article straight did you? Anyway welcome back.

AT LAST!!!!! We've recieved the JACS Printshop Graphics (hooray) So maybe now that you're in a good mood you'll donate at least a tiny-weny program. The 1st disk will be available at the meeting.

fizz..boom..here are the disks on the July 1986 DOM.

1.BOWLING - Play with joystick. Up to four players (one joystick)

2.VOLLYBA - Volleyball for four players (requires four joysticks).

3.VOLLYBA.INS -Instructions for #2.

4.PINGPONG - Tho it's nowhere near BLAZING PADDLES its a great version. Two player paddle various boards.

5.XLVT100.INS - Instructions for #6

6.VT10SQ.COM - An 8-bit emulator (VT100 - 10 squared get it? Well it came that way I didn't name it)NEEDS TRANSLATOR ON XL/XE's AND NO BASIC!!!! MAKE SURE TO RUN #9 BEFORE RUNING!!! MUST BE COPIED TO NEW DISK W/ DOS&DUP AND RENAMED AUTORUN.SYS.

7.CBHLIFE1.DOC - Instructions for #8.

8.CBHLIFE1.BAS - An 8-bit game of life (not the board game) complete with doc's and some samples - 4 data files

9.INSTRUCT.BAS - A homebrew to print the various documentation.

To get past DOM's call me or leave your name and the names of the DOM's you want, at the meeting. If you have any problems with disks let me know. See you at the meeting.

V.P. Notes
By Jim Schulz

News of the 8 bit world is a little slim this month after the wealth of new Atari products were announced at CES. However, a couple of new things have come out.

Topic one involves all Indus drive owners.

Indus was bought out or sold to a company called Future Systems. Indus, those who don't know, is probably one of the most advanced third-party disk drive manufacturers. Future Systems are selling the long awaited Synchomesh II, twice as fast as the original, and a ram charger card which will allow you to run CP/M programs on your XL/XE. The ram charger card is only $99.00. I will have more information for those who are interested at the meeting.

Topic two involves new programs for the Xl/XE.

This month two interesting programs have surfaced for the 8 bit. One of these is the long awaited Print Shop Companion. If you own Print Shop and always wanted to do more with it than this program is for you. Some of the features include calendar creation and print shop border creation. I have seen this program but I haven't run it yet so I don't know much more. Program two is Chessmaster 2000. This is a 3-D chess program with too many features to mention. I have seen this program in action and it looks very interesting. Bug your local computer dealer to order you one or both. Maybe if we are lucky, we can get these demoed at the next meeting.

Topic three involves ANALOG magazine.

ANALOG magazine has lately got caught in the 8 bit/ST battle among users for support. So ANALOG has come up with a solution. In the coming months, ANALOG is going to produce an 8 bit only magazine to show its continuing support for the XL/XE series. No ST. This special issue will include alot of special programs and is being compared by ANALOG to their BEST of ANALOG book.

Well, that's it for this month.
Until the SPACE meeting, happy computing.

The 130XE/576K upgrade
by Scott Peterson.
Copyright (C) 1986, released to the public.

Here we go again, this time I recommend you have some electronics experience if you wish to perform the upgrade. Some of the work is duplicated from the 320K upgrade so 320XE owners will not have as much work to do. One other point: when in the 576K mode you MUST use some sort of basic cart, as you lose the internal basic. This is only in the 576K mode; in the 130XE mode internal basic will function normally.

TOOLS NEEDED:

To preform this upgrade you need the following:
Low wattage fine tip soldering iron.
Vacuum de-soldering tool(like Radio Shack PN#64-2098).
Some 30-gauge wire (Radio Shack PN#278-501).
#2 phillips head screwdriver.
Heat-shrink tubing, 1/8 in. Dia.
Also a pair of small needle-nose pliers and a small flat tip screwdriver are handy.

PARTS NEEDED:

Z1	74LS158
Z2-Z17	41256(150ns.)
Z18	74LS138
Z19	7432
R1-R2	33 ohm 1/4 watt resistor.
S1	Micro-mini DPDT switch (like Radio Shack PN#275-626) - see note by diagram

Remove the 130XE case and metal RF shield to get down to the mother board (320XE users go to step two).

STEP ONE:

De-solder and remove the eight ram chips U26 thru U33(MT4264). They are the row closest to the TV RF module (do NOT use solder wick. The circuit board of the 130XE has very weak runs and they will pull loose if not completely de-soldered). Replace these with the 16 pin low profile sockets.

Take a piece of wire approx 12 in. long and run a jumper from pin 1 of each socket to the next. When you are done the wire should be attached to pin 1 of each of the new sockets and you should have about 6 inchs left over. Do this on the rear of the mother board and then snake the wire thru the large hole near the ram chips.

Next, de-solder and remove U23(CO14795), and replace it with a 40 pin socket. Bend up pins 15 and 16 and insert it in the socket you just installed.

Take Z1(74LS158) and break off pins 5,6,7,9,10,11,12,13,14. Bend up the other pins on it except 8 and 16. Put this "piggy back" on top of U20 (HD14050, or 4050 - located just to the right of C50) and solder pins 8 and 16 of Z1 to pins 8 and 16 on U20.

Now take a short jumper from pin 15 on Z1 to pin 8 of Z1. Take a piece of wire about 4 in. long, solder one end to pin 30 on the chip marked "CO14805" on the mother board, and the other end to pin 1 on Z1.

Next solder a wire to pin 15 (one of the two you bent out) of U23 and connect the other end to pin 2 on Z1. Solder a wire to pin 16 on U23 and connect the other end to pin 3 on Z1.

Take R1(33 ohm) and trim the leads to about 1/4 in. Take the wire you connected to pin 1 of the ram chip sockets and solder it to one end of R1, solder the other end of R1 to pin 4 on Z1.

STEP TWO:

Slide the mother board back into the bottom half of the plastic case (do not use the RF shield, you must be able to get at the mother board), and attach the keyboard. It will rest above the mother board without touching it.

Test all 41256 ram chips by putting one set of 8 in the sockets and using the handlers(or DOS's), and then the next. After testing all ram chips remove them all from the sockets, and take 8 of them and cut about half of pin 15 off of each one. Only the "fat" part of pin 15 should be left.

After doing this you have to "piggy back" the 8 256K ram chips with the short pin 15's on top of the other 8 256K ram chips.

Now solder all the pins together on the stacked ram chips except for pin 15, which should not be touching the other pin 15. Make sure you have them going pin 1 to 1, pin 2 to 2, ect. When you get done you will have 8 sets of Piggy backed 256K ram chips.

Now take a piece of wire about 16 in. long and run a jumper from one pin 15 to the next on all the top 256k DRAM's, leaving about 1 inch between each ram chip. Put the stacked ram chips into the 8 sockets you installed earlier.

Take Z18 (74LS138) and bend up all the pins except 8 and 16. Cut the bent pins in half so only the fat part is left and solder pins 8 and 16 to pins 8 and 16 of the other 74LS138 right below the U23 (CO14795).

Take Z19 and bend up all pins except 7 and 14. Once again cut all the pins you bent up in half and solder pins 7 and 14 to pins 7 and 14 of the 74LS08 right below U23.

Take the wire you earlier jumped to pin 15 of Z10 thru Z17 (the upper row of 256K ram chips), go out 2 in. and cut the wire. Now install R2(33 ohm) between this cut.

Place a piece of heat shrink tubing over R1. Make sure no wire is exposed and heat it with a lighter. Take the other end of this wire and connect it to Z18 pin 14.

Find the 2 33 ohm resistors just to the right of U28 (one of the ram chips you socketed). The upper one of the 2 is R111. Desolder the right leg of it and bend it up.

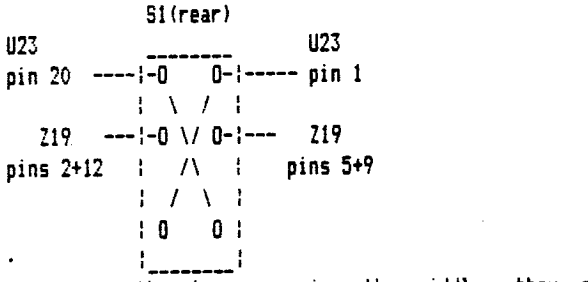
Take a piece of wire and solder it to the land where you just removed the leg of R111. Connect the other end to Z18 pin 4.

Trim back the leg of R111 and solder a wire to it, slip a piece of heat shrink tube over it and heat it up.

Now connect the other end to Z18 pin 12.

Take a short wire and run a jumper from pins 1 and 16 of Z18. Take another short wire and connect a jumper from

pins 3, 5, and 8 of Z18.
Now connect a wire from Z18 pin 2 to Z19 pin 3.
Find the wire you installed from U23 pin 15 to Z1(74LS158) pin 2 and desolder it from U23. Take it and reconnect it to Z19 pin 11.
Now pry U23(C014795) back out of the socket, bend up pin 11 and plug it back in.
Run a jumper from pins 1 and 4 of Z19, and another jumper from pins 10 and 13 of Z19.
Connect a wire from U23 pin 11 to Z19 pin 1, and from U23 pin 15 to Z19 pin 13. Now connect a wire from Z19 pin 8 to the right side of the 3.3K ohm resistor marked R206 (located at the bottom right of U23).
Connect a wire to Z19 pin 6 and run it to pin 18 of U3 (C061618).
Now comes the tricky part. Drill a small hole (1/4 in. or so, depending on the switch size) at the rear right on the back of your 130XE.
Take the small DPDT switch (S1) and install it in the hole. Now connect it as shown (** make sure the switch DOESNT have a center off position **);



Note: where the wires cross in the middle, they are NOT connected. Make the connection from the switch to U23 on the rear of the mother board. Well that's it (thank god). Now re-assemble the computer, being carefull not to break any wiring going to the switch. You should now have in one switch position a 100% compatable 130xe, and in the other you have a 576K 130XE that does not have Antic memory enhance mode and also cannot use internal basic.
In the 130XE mode you gain 64K as bit 6 of the PIA can still be used. The following page list of the bit table and numbers to be used in location 54017(PORTB).
Once again, if you need help call the Peanut Gallery BBS (408)-384-3906. If you want a mailer of all the upgrades I have as well as a disk with handlers, source codes, etc. send a money order (please, no checks) for $10.00 to;

Scott Peterson
P.O.Box 33
Ft.Ord CA. 93941-0033

This includes the 800 288K upgrade by D.G.Byrd, the 800XL/256K (C.Burchholz), the 130XE/320k upgrade and anything else I finish. Good luck, and have fun.
Memory Control Register 54017(D301) 130XE in 576K mode.

```
Bit 7 6 5 4 3 2 1 0
    D a b C c d e R
```

```
D=0 enable diag. ROM
R=1 enable OS ROM
C=0 enable extended memory
abcde=memory control bits.
```

Bank#	Control#(dec)	Hex
Bank 0	>129	81
Bank 1	>131	83
Bank 2	>133	85
Bank 3	>135	87
Bank 4	>137	89
Bank 5	>139	8B
Bank 6	>141	8D
Bank 7	>143	8F
Bank 8	>161	A1
Bank 9	>163	A3
Bank 10	>165	A5
Bank 11	>167	A7
Bank 12	>169	A9
Bank 13	>171	AB
Bank 14	>173	AD
Bank 15	>175	AF
Bank 16	>193	C1
Bank 17	>195	C3
Bank 18	>197	C5
Bank 19	>199	C7
Bank 20	>201	C9
Bank 21	>203	CB
Bank 22	>205	CD
Bank 23	>207	CF
Bank 24	>225	E1
Bank 25	>227	E3
Bank 26	>229	E5
Bank 27	>231	E7
Bank 28	>233	E9
Bank 29	>235	EB
Bank 30	>237	ED
Bank 31	>239	EF

There is a version of MYDOS to support this mod. It is called 4.1A and will run up to 32 16K banks. At this time ICD is working on a RD.COM file to support this. Also I have written a machine language tester that will load and test all 32 banks of memory to insure that they are there and work. Wonder how long it will take Jay Torres to copy this one...

Good luck
Scott Peterson

DANGERS OF NON-STANDARD MEMORY EXPANSIONS

By: Bill Wilkinson, OSS

This technical note is being written because so many of the memory expansion schemes I see being touted are NOT compatible with a standard 130XE. If you implement the memory expansion per most of these schemes, you will be missing one important feature of the 130XE: the ability to direct ANTIC to do its DMA to either main memory or the requested bank of memory. In a standard 130XE, clearing bit 5 to zero requests ANTIC to follow the bank switching; setting bit 5 to a one tells it to remain in main memory, no matter what memory bank was requested.

This is an important feature! Mark Rose (also of OSS) and I will take credit for being instrumental in the creation of the function of this bit. When Atari asked us to do DOS 2.5 and its RamDisk, their prototype hardware had ANTIC following bit 4 along with the CPU. The most obvious problem with this is that you can't use the extra banks for CPU purposes (e.g., RamDisk) when ANTIC is doing its DMA in the memory between $4000 and $7FFF. The problem was especially acute with AtariWriter (the 16K cartridge version), since its display memory is ALWAYS in this range.

Actually, Mark and I found that if you are ONLY using the bank select memory for a RamDisk, this is not an onerous restriction. It simply means that you could only do pseudo-sector transfers during vertical blank. And, in fact, DOS 2.5 still has a flag in it which you can POKE which will tell it to only use extended memory during deferred vertical blank.

Now, there was another hardware solution, which we mentioned to Atari: simply never allow ANTIC to use extended memory. We discussed the two options with Atari, and both they and we decided we felt strongly that the capability of bank selecting ANTIC's memory was important. Thus the use of that bit.

So, if your 800XL hardware mod works with the AtariWriter cartridge, then you obviously adopted that second hardware solution: don't let ANTIC use extended memory. That is not a really terrible decision (especially if it is economically motivated), but it does mean that it is possible that some future 130XE software will not run on your modified machine. Actually, I already have at least one piece of software, written in ACTION!, which depends on the 130XE's method. But it's only an ultra-fast picture switching demo, so it's no big deal.

There is a mod to both the 130XE and 800XL which maintains the 130XE/ANTIC bank select capability. It was designed by Charles Andrews of Eugene, Oregon, and he showed a 320XE using this mod at CES in January (in Atari's booth, as a courtesy to him by Atari--though it does appear to be an implicit endorsement of his scheme). I believe his method uses an entirely separate port for controlling the beyond-130XE extensions (in the $D6xx range, maybe?). However, I devised a method of doing the same thing using only Port B. The scheme is outlined in the following paragraph.

A "LEGAL" 320XE: This mod depends on the fact that the diagnostic ROM area is only used at power up or by the self-test routines. At these times, both ANTIC and the CPU are using only main memory, so bits 4 and 5 of $D301 are both set to one. Thus we change the "enable" of the diagnostics from the logic equation diag_enable = not_bit7) to diag_enable = not_bit7 and bit4 and bit5.

Then the enable for the extended RAM becomes RAM_enable = (not_bit4 or not_bit5) and we can now use bits 6 and 7 for bank selection in the same manner that other schemes use bits 6 and 5. Reason this works: even if Atari ever changes the self-diagnostics so that they check the extended RAM, they can't put that particular code in the ROM which overlays $5000-$57FF, because that's right in the middle of the RAM area they need to check!

MAST MINUTES

The meeting was called to order at 7:35, Bruce Haug sold raffle tickets on HIPPO'S JOKES AND QUOTES which was raffled off for a profit of $17.00

Bruce reported that the MAST SIG purchased a 520ST of its own, from USER FRIENDLY. Steve Pauley and Todd Burkey of MINDTOOLS were given a big hand for providing us with a ST for the first months of MAST.

Jim gave his usual report on whats new with the 520ST, his report on the CES Show included a list of new programs that are coming out for the 520ST. If I listed them here it would more then fill this newsletter. ATARI showed START, a new magazine with a 3 1/2" disk. The first issue is avaiable at local book stores, without disk. Future issue's will have DISK's. Compute and ANALOG are coming out with ST Magazines by the end of the year.

ST BASIC is being rewritten from scratch, and ATARI has lowered the price on Mono-Chrome monitors, that was about it for what is new.

Jim Glish demoed a Midi Interface, with a pair of demo's by Audio Lite, the maker of Music Studio. This was a very impressive demo. A Casio Keyboard played on one channel, and the ATARI ST on the other. Everyone enjoyed it, and they all had questions about cost and how do you program it??

Jim reported he had 5 DOM's to sell after the meeting.

Very Temporary Secretary
THE PRES

News from the Co-Chair
By Jim Schulz

It's that time again for another MAST meeting full of rumors, news, and plenty of new disks of the month. The computer show season is now over after nine months of shows so expect the rumor mill to be quite dry for the next couple of months. Now is the time for the software companies to deliver on the promises of new software which they have promised over the last nine months. But I am sure I will have some juicy news and rumors anyway for the meeting.

I have just gotten back from a three day ST-less vacation and have not yet caught up on the latest ST news so this month's rumors will be kept short. The hot news is if you are in the market for a hard disk prices are going down. Supra has reduced the prices on their 20 and 30 Mbyte hard disks, some of the best around. Supra has lowered their price in anticipation of the release of the Atari hard disk, which has yet to be seen. Also if you don't own an ST now is the time to buy. Atari has a new special going on right now. If you buy a color 520ST system, you get a free monochrome monitor. Two monitors for the price of one. Look for this deal at your local dealer.

Starting this month, I will start a new column called Software Updates. In this column, I will list the latest version numbers of public domain, shareware, and commercial software. I will also list ways to get the latest versions of the commercial software. But in order for this column to succeed, I need your help. I would like you to boot up all of your commercial software versions, write them down, and bring them to the next MAST meeting. I own quite a large software collection, but I usually buy my software when it first comes out so most of my versions are 1.00. I don't ask for your help that much but now I am. I spend at least 90% of my free time keeping this club going so the least you can do is to help me get this information out to all. I will organize the data and write the column. All I want is your input. Last month's newletter said that both SPACE and MAST were dead. Prove them wrong and contribute to this column. Enough said.

Starting next month, I will start another new column which I will call Leftovers. This column will include leftover and forgotten news from the last MAST meeting. I usually have about twice as much material as use at the meeting and this will be the way in which I will get more news out to you the ST owners.

Disk of the month sales will be moving this month to the back of the room. Starting this month, under a large MAST disk of the month banner by the door disk of the month will be sold. Disk of the month will be sold by me before and after the meeting and by Frank Haug during the meeting. So there is no longer any reason not to buy the disk of the month.

Finally, the software pick of the month..... The envelope, please. And the winner is FLASH! FLASH is a new telecommunications program from ANTIC which has about everything an ST owner would want in a modem program. I do not yet own a copy of FLASH, but I have not yet heard one bad word about it, which seems strange. FLASH was tested for over 100 hours on Compuserve, beta tested by the Compuserve sysops, and is patchable. FLASH includes a patch capability to patch new features and fix bugs. Two patches are already available for FLASH. FLASH is probably going to be the standard modem program for the ST because FLASH was written especially for the ST and is supported through patches for the ST. More on FLASH next month.

Well, that is it for this month. Boy, am I getting tired of writing. We will be you soon at MAST July meeting for more of the hotest news, rumors, software demos, and public domain software.

Software Updates
By Jim Schulz

For this month's first software updates column, I will tell you of four new versions of popular commercial software which is available. Nextmonth, I will start a monthly updated list of the latest versions of public domain, shareware, and commercial software.

First this month is First Word from ATARI. The latest version of First Word, 1.06, is available from Atari for $9.95. This fixes all serious bugsknown by Atari and comes with a printed manual. For the update, write to Atari Corporation/Customer Relations Dept./ Attn: 1st Word Upgrade/1196 Borregas Avenue/Sunnyvale, CA 94086. Please remember to include your original First Word disk. Tell them Neil Harris sent you on Delphi.

Second update this month is Time Bandits from Michtron. Michtron has added a save game feature to Time Bandits. It now will save your player each time you go to the Time Gates. To get the new version of Time Bandits, send a check for $5.00 or Visa or MC and your original disk to Michtron. For the update, the address is Michtron/576 South Telegraph/Pontiac, MI 48053. Please remember to send your original disk. Tell them Gordon sent you on Genie.

Third update this month is Major Motion from Michtron. Michtron has added an option so that you can now use a joystick. To get the new version,send a check for $10.00 and your original disk to Michtron. For the update,use the same Michtron address as above. Please remember to send your original disk and tell them Bob sent you from Genie.

Forth update this month is Easy-Draw from Migraph. Migraph has released version 1.03 which now includes enhancements of mixing text and graphics in your printouts. To get the new version, send a check for $3.00 and your original disk to Migraph. For the update, the address is Migraph/720 S 333rd Street, Suite 201/Federal Way, WA 98003. Remember your original disk and tell them Kevin sent you from the Current Note editorial.

Well, that's it for updates this month. I will search out more have them ready for next month. Until then, see you at the meeting.

Some Tips on the ST
by John DeMar

Original article accompanied "ST-Talk" version 1.1, by John DeMar, distributed by Quantum Microsystems, Inc.
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Volume I, Part 3

11) Some Notes on The Operating System (TOS)

It's pretty frustrating when I hear people talk about the ST's operating system. Here's a few definitions and clarifications on what's inside of there; I'll start from the bottom up.

The ST BIOS (Built-In Operating System) is a group of functions to handle the lowest-level tasks in the ST. This includes simple input and output to and from the devices and other functions specific to the hardware. These routines are used by advanced programmers when more control or speed is needed. Since the BIOS is mostly specific to the ST, use of these calls will make it harder to convert the program to another computer.

GEMDOS is the medium-level set of functions that handles disk file management, general input and output, memory allocation and program loading. This set of routines is similar to CPM/68K but is NOT CP/M compatible (this has been one of the most common misunderstanings!). Although GEMDOS was written by Digital Research Inc., the makers of CP/M, GEMDOS is closely related to MSDOS with similar function numbers and parameters. Since GEMDOS seperates the programmer from the hardware specifics, programs are more easily converted to other computers.

Another low-level set of routines is called the "Line-A Graphics". These are very fast drawing functions used extensively by GEM and are also available directly to the programmer. The Line-A routines are responsible for just about everything you see on your ST screen. Use of these routines makes it difficult to move programs to other computers and it's very difficult (or impossible) to make them work nearly as fast on any other computer!

GEM itself is actually not an operating system -- it's a library of routines available to the programmer that manages the grphics display and the user interaction with the program. GEM is divided into two major sets of functions: the VDI (Virtual Device Interface) which handles higher-level graphics and the AES (Application Environment Services) which are high-level libraries of routines for the user/program interaction.

VDI makes extensive use of the line-a graphics to control the screen display with over one hundred available functions! The AES contains libraries of routines (totaling over a hundred, again!) that use VDI and GEMDOS. The programmer uses these libraries for a consistent environment between the program and the end user.

GEM programs that do not make calls to the BIOS are, in theory, completely portable to GEM on other computers, including the IBM PC. The GEM DeskTop is actually a GEM application that runs by default when you turn on your computer. Any or all of these routines, including the BIOS can be ignored by another operating system loaded into the ST. I can't wait to see what kinds of systems become available for the ST! I hear there are definite plans for OS9 and other multitasking OS's.

12) Some Notes on the Hardware

I'm still impressed every time I look inside of an ST! I could go on forever about the details, but I had better save that for later. So here's a few comments on a some hardware-related things:

The 520ST has a Memory Controller that can handle upto four megabytes of RAM without any additional support chips. The Operating System looks for up to 4M of RAM and all programs may access it continually without banking or segmenting. With 32 1-Meg Ram chips and a lot of work, you have a 4-Meg ST!

The ROM Cartridge port on the left side of the ST has no read/write line and is strictly for read-only memory. You cannot add RAM or other support chips to that port.

The DMA port is not a Hard Drive Port. It requires about $200 worth of circuitry to control a bare hard disk drive. However, it is relatively inexpensive to control SASI and SCSI devices and allows for upto eight compatible peripherals.

Atari says that a $699 hard drive will be available soon. A couple of other companies are showing hard drives and hard drive controllers for the ST.

The ST has four custom integrated circuits that are available only from Atari. Besides the ROMS, all of the remaining IC's are readily available "off the shelf". Everthing in the ST is soldered in without sockets except for the custom chips and ROMS (these are not guaranteed to stay socketed in later production runs).

The floppy disk controller in the ST will control only two disk drives; but it will control 5 1/4" drives with a format compatible with MSDOS and an IBM-PC. A simple cable from inside the SF343/SF314 drive can hook to a 40 track or 80 track 5 1/4" drive. This isn't really too useful, but it is definitely faster to copy files direct from disk instead of transfering them through terminal programs between an ST and IBM-PC. However, the latter method is usually more convenient and less expensive.

Another note: the ST cannot drive both the monochrome and color monitors at the same time.

If this was all too heavy to handle, the next topics should be more useful!

The concluding segment of this article will be printed in next month's newsletter. -ed.

ST Disk of the Month - July

By Jim Schulz

Last month, we saw the rise of the five disk disks of the month. Well,what do we have for this month. I am afraid not to much. It looks as though summertime is vacation time and that means less public domain software. As things looks now, this month could be a little weak. But I have said this before. So far this is what is up for this month's disk.

Kermit

- Yes, I have gotten a hold of a GEM-based version of Kermit from Germany. Someone else who got fed up waiting for another version that was non-developer kermit. This program is fully GEM-interfaced and includes the source code.

Medium-res

- This is another version of the auto directory program which when put in the AUTO directory will bring a color system up in medium resolution. This program also checks to see if you are running a monochrome system and does nothing.

Calculator

- Yes, one more calculator to add to your collection. This calculator includes source code, a program calculator, and a desk accessory calculator. So if you ever wondered how a calculator is written, here is your chance.

This is what I have for starters. More is coming in so expect at least two full disks of public domain software. Also expect source code for the some of the most popular utility programs from the past.

If that is not enough, I will have a good selection of special disks this month. The first catagory is commercial demo disks. These disks will contain demos of commercial programs which oftentimes take a whole disk to themselves. Here is this month's selection.

Zoomracks

- This is a fully operational demo disk of the Zoomracks data base program. All files to run Zoomracks are on this disk. The only limitation with this demo is that you can only have 20 data base records. Other than that it is a fully operational version of Zoomracks. Now you can run and use the unique and popular data base program before you buy it.

Atari Demo

- This is demo disk from Atari of the features and programs available for the ST. You get music from Music Studio thoughout the demo and you get to see a number of ST programs in action. I good demo to show your friends to get them hooked on the ST.

FTL Demos

- FTL, the people who have brought us Sundog, have two demos of their new programs Dungeon and Micro Cookbook. Dungeon, from the demo looks like a 3-D D & D type game with excellent looking dungeon scenes. Micro Cookbook is a cookbook on disk. This demo comes with a number of recipres and shows some of the features of this new cookbook data base program.

????

- I am ordering today another demo which is fully operational and includes a separate tutorial disk. This two disk demo set sounds very excellent and its only limits is the number of records which can be stored. If I receive it before the meeting expect to see this two disk set also available. In addition to these, I have number of other miscellaneous commercial demos which might also be available this month.

Now for the fun part, I have three or maybe should I say six mystery disks this month. I have come across three excellent software packages which I will make available this month.

?????? #1

- This software package is the first program which I wanted to convert to the ST if I had the time. Well, someone else has finally done. This program is so big that it takes 2 hours to compile and 15 minutes to link. The program itself takes up most of a single-sided disk with the source code taking up two more disks. But if that is not enough, there is already a second conversion of this program available. I hope that I might have both versions by the meeting. I am waiting patiently for this program to arrive. If it arrives, you will have to see it. For complexity, this program is very good. Don't expect too much for graphics.

??????? #2

- This software package is a derivative of the next software package. This program takes up two disks and it uses itself. It comes with complete documentation. There is not too much that I can say about this without giving it away. If you use your ST, I think this program will be a good addition to your library.

??????? #3

- This software package is what I call a real find. What would you say if I told you someone took probably one of the best known public domain software packages for the ST and fixed all known bugs and kicked out a new version??? Well, that is what this program is. I received this program today and it looks very good. For more information, come to the meeting.

Well, if that isn't enough for this month, this month I will introduce a quarterly ANALOG ST disk of the month. ANALOG now lets user groups distribute selected programs from the magazine as long as ANALOG is mentioned. This disk will available this month and every two or three months there after as long as I get a full disk of ANALOG programs.

Is this enough???

How about the introduction of the MAST Music disks?? To start out, this month we will celebrate Christmas in July with the Music Studio Christmas disk. You can now listen to all your favorite Christmas music on your ST. What else is there better to do on a hot summer day?? Plus this month we will see, I hope you aren't fooling us again this month,

the introduction of the MAST picture disk collection. The picture disks will include the TINYVIEW program and pictures squeezed with TINYSTUFF. If there are monochrome pictures on the disk, PICBW6 will be included to convert these pictures for viewing on a color system.

Wew, that is a mouthful. If there is not something that interests you in this month's disk collection, I don't know what I can say. I just hope that I can get some sleep after using and playing with these programs before the meeting. I have temporarily discontinued listing the previous month's disks for this month because of the wealth of new disk material.

So as of last month we now have 26 (count'em) disks of the month after only five months. For information on any of the past disks, see me at the next meeting.

For those who don't know, MAST has a disk of the month which we charge $7.00 for which is packed full of public domain software for the ST. All software programs are checked by me and documented in a READ.ME file in each directory so you are sure you get something that works. Please note the new price of $7.00 per disk to help keep up the quality of the MAST DOM library.

For those who cannot make the meeting and still would like the DOM, I will mail them to you within one week of the meeting for the standard $7.00 plus $0.50 for postage and handling for each disk. My address is:

3264 Welcome Avenue North
Crystal, MN 55422

So, that's it for the month of July. So for now, I will see you at the next MAST meeting with at least two new full disks of the best public domain software to be found from the last month and a whole lot more.

Software Reviews
By Jim Schulz

This month's reviews might be considered a paid advertisement for Michtron, but it isn't. This month's reviews will look at three of the latest programs from Michtron: Time Bandits, Cards, and Cornerman. We will be if they live up to all the hype that these programs have been given.

Time Bandits
By Michtron

Well, Time Bandits, this sounds like the name of a popular movie or maybe a wild west shootout. Time Bandits is a strange game to explain. This is a shoot'em up, adventure, and mystery all rolled in one. If you buy any game for the ST, this is it. Wait a minute that comes later. Time Bandits is actually about sixteen games all rolled into one big game with each game having fifteen levels. Sound interesting.... Well, how would you like to play Pacman one minute and searching the Star Trek for items the next minute??? Ok, that doesn't interest you. How about about being in an old west town fighting snakes one minute and the next minute fighting centipedes. Also interwined in some of these games are adventures to be solved. The program claims to be about 300K and I will have to be agree with them. Before conclusion time, I have to mention one more option. This program also has a unique two player option, which you can cooperate with each other or fight each.

Ok, conclusion time.

Do I buy this game or whatever you call it??? Come'on, Jim, anything this good has to have problems. Okay, there are problems. First, the program at random times quits back to the main screen. A time portal??? I doubt it. At times, this is a nuisance and it nevers happens the same way twice. Disturbing!!! Second, there is no save game feature. With a large and complicated game like this, you need to be able to save games. Third, the game is copy-protected. I don't know if this is bad or not. I believe the authors should protect their interests, but I have heard of some Time Bandit horror stories. The game does save the high scores to disk.

Ok, conclusion time part 2.

Do I buy or not??? I say yes, yes, yes!!! The problems that I mentioned earlier would not keep me from this program, but I would like them fixed. This program is just to good to not buy it. The graphics are great, oh I forgot about the graphics. The game play is good also. This program is one of the few programs which has something for everyone. If you get bored with one game, you just play another. This program never gets old. Buy it!!! Finally, as this goes to press, it looks like someone at Michtron is listening. A new save game feature has been added to Time Bandits. For more information, read the new software updates column by yours truly somewhere else in this month's newsletter.

Cards
by Michtron

Ok, another card game. Jim, you reviewed a card game a couple of months ago. Isn't that enough??? No one needs two card games. Wrong, card breath. If you buy any card game, this is the one to buy. Oh oh, there I go again. Cards is a GEM interface-based card game of five popular card games -Blackjack, Cribbage, Klondike, Poker Squares, and Solitaire. Each of these card games is very well done is often times self-explanatory. I have spent most of my time playing Klondike and Solitaire. There is nothing bad that I can say about this program. So far, this is one of the few programs which I have run with no bugs. If there is anything wrong with this program, it is that it is addicting. I have spent many late, late nights playing this game. It is that good. For you interface fans, the program can be run almost exclusively from the mouse. Except for a keyboard hit in Cribbage, you never have to hit the keyboard to play this game. Very nice. And if you don't like to use the GEM interface menus, the function keys have the same functions as the menu entries. Need I say more????

Do I buy this program???

If you like card games, in general, or if any of the above card games are your favorites, I would say this is a definite buy. I love solitaire card games so I love this program. If you are not a card game fan, I would say give this program a look before you buy. It might not be for you. For me, as soon as I done writing articles for the newsletter, it is back to Cards.

Cornerman

By Michtron

Cornerman??? What is this Michtron's Sidekick clone, look alike??? Correct!! But the big question is does it live up to Sidekick in features and usefulness??? This remains to be seen. Cornerman is a 100K desk accessary, yes that big, which includes seven utility programs. The programs include a real-time analog clock, a corner digital clock, a notepad for notes, an ascii table, a phone book, a 16 digit calculator with a paper tape feature, a DOS window, and a 15 square game. Quite a bit for 100k. Each of these comes up in its own window and the initial position of each utility can be set as well as additional parameters about each utility. Well, that's the facts, now to the analysis. Cornerman is 100k!!! This seems a little extreme but you do get a lot for that. Of the utility programs, currently I only use the corner clock and the calculator. Otherwise I waste too much memory on desk accessaries. I like the corner clock. The corner clock is a small digital clock which resides in the upper right hand corner of the screen continually clicking off the time. I like always seeing the current time without pulling down the desk accessaries. The calculator is also nice for nothing but the tape feature. With this calculator, you can run a tape of your calculator values either on screen or at the printer. The values can either be clicked or entered at the keyboard. The other utilities either require the system disk in drive A to work or are just fluff. Also these are only available in GEM interfaced programs. This is too bad. I would love to have a phone book in PC Intercomm or the note taking program in ZORK I. But no luck.

Conclusion time again. Do I buy????

I bet you know what I am going to say!!! I am going to give this program only a conditional buy. If you own a hard disk, I would seriously look at this program. With the temporary files on the hard disk and less need for ramdisks, 100K is no longer a big deal. For all others, take the above warnings seriously. Until I get my hard disk, I only use it when I need a good calculator. This is not SideKick. If they could only make the utilities available from within all programs, it would make this program a lot more useful and it would be well worth the 100K loss.

Well, that is it for this month.

Next month I will depart from the normal reviews of popular programs and look at four of the currently available communications programs: PC Intercomm, STTalk, MiTerm, and Flash. I will show you how they all stack up again each other.

Until next month, see you at the meeting.

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